

Responding to Students

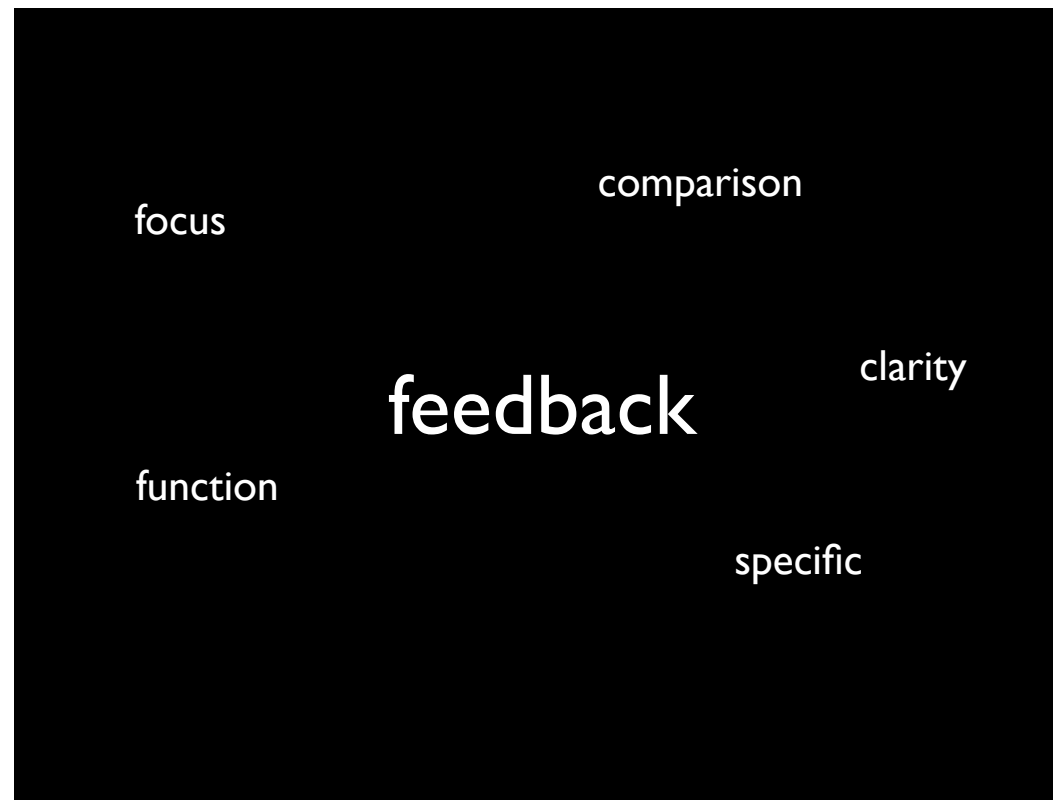
plenary four





timing

Feedback strategies can vary in timing – when given and how often
We can focus on good feedback – “in the moment” – providing immediate feedback.
or we can delay feedback slightly for more comprehensive reviews of student thinking and processing.
– never delay feedback beyond when it would make a difference to students

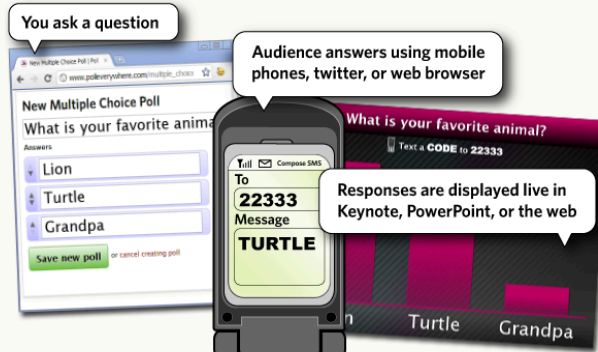




Introduce
polleverywhere.com




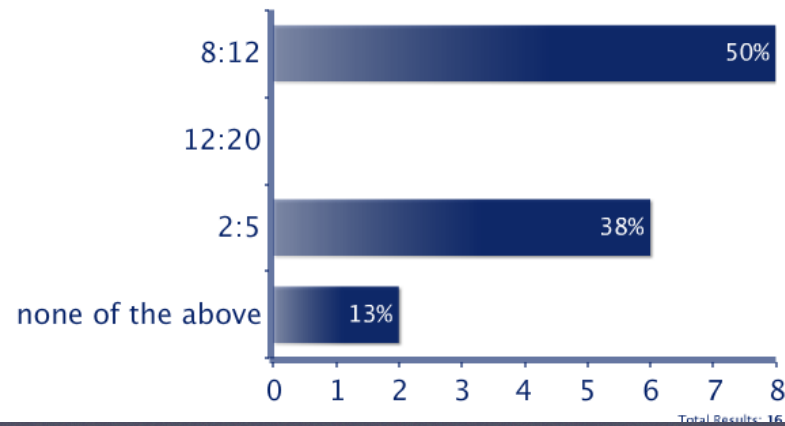
How Poll Everywhere Works



www.polleverywhere.com

There are 8 girls and 12 boys in summer school. What is the ratio of girls to the total amount of students in the class? (Before)

 **Start** this poll to accept responses



\$10. How much should 18 boxes

This is a great example of unit rate because we first had to find out how much one box cost
i like what you did by multiplying 18×2.50

i know that one box is 2.50\$ so 18 box's are 18 so the price is 45.00\$
i did this by doing $18 \times 2.50 = 45$

Are you sure?

yes

how do you know that one box is \$2.50

·
sounds good :)

10 divided by 4=\$2.50


its not going to be 2
or 4

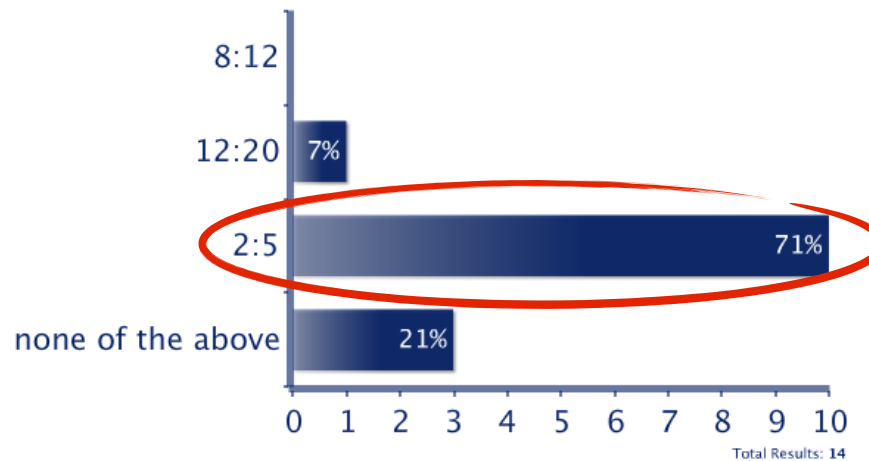
We are done

I think that we have both solved the problem well done

Dabbleboard

There are 8 girls and 12 boys in summer school. What is the ratio of girls to the total amount of students in the class? (After)

 **Start** this poll to accept responses



Teagan and the Giant



Teagan measured herself and she was 6 of her little hands tall. The friendly giant measured himself and he was 6 of his giant hands tall. The he used his giant hands to measure Teagan and she was 4 of his giant hands tall.

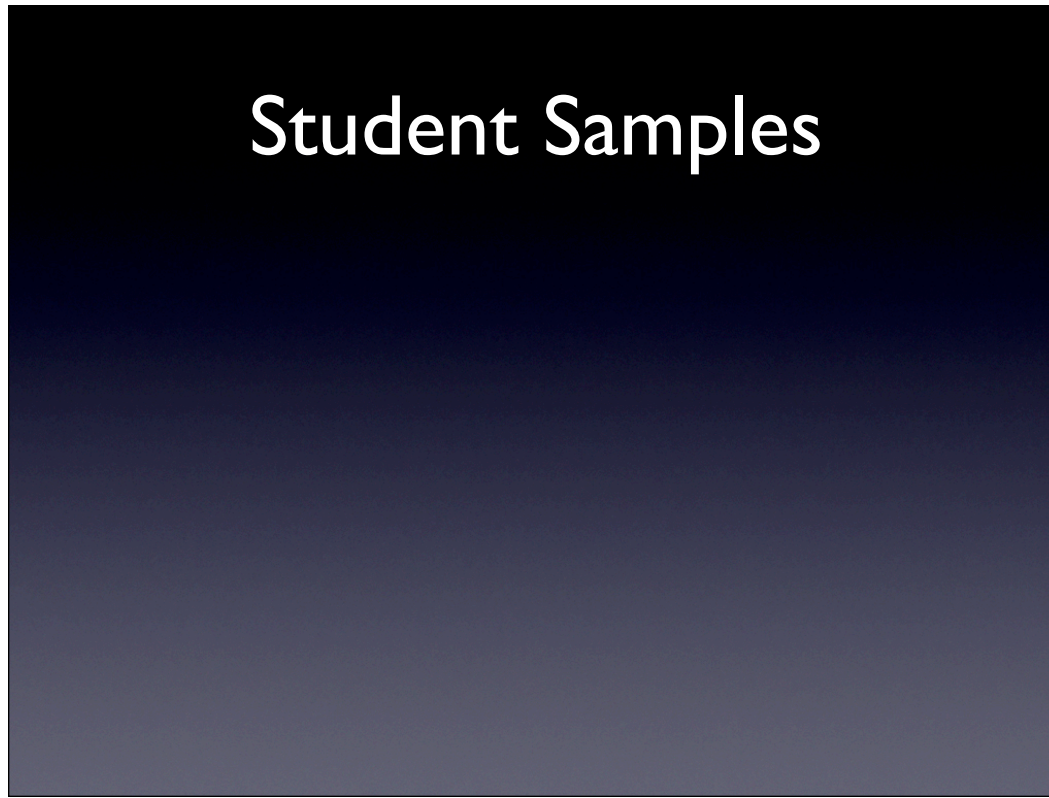
Question: How many little hands tall is the friendly giant if Teagan measured him with her little hands?

Teagan and the Giant

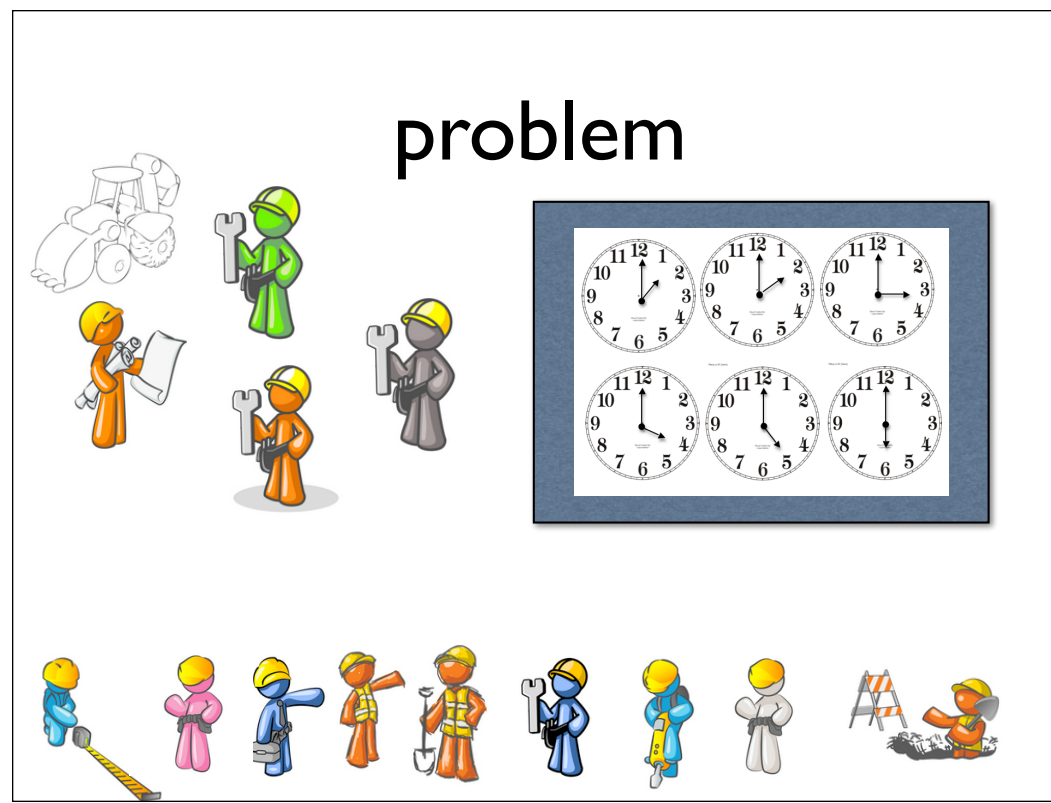
- a) 9
- b) 24
- c) 12
- d) 8

Answers to the question included:
What were some of the explanations leading up to these answers?
polleverywhere: Which was the most popular answer? (Grade 8)
students

Student Samples



Student solutions shared on Teagan and the Giant problem.



If it takes 4 people 6 hours to repair a road, how long will it take 9 people to do the job if they work at the same rate?

What is the learning goal?

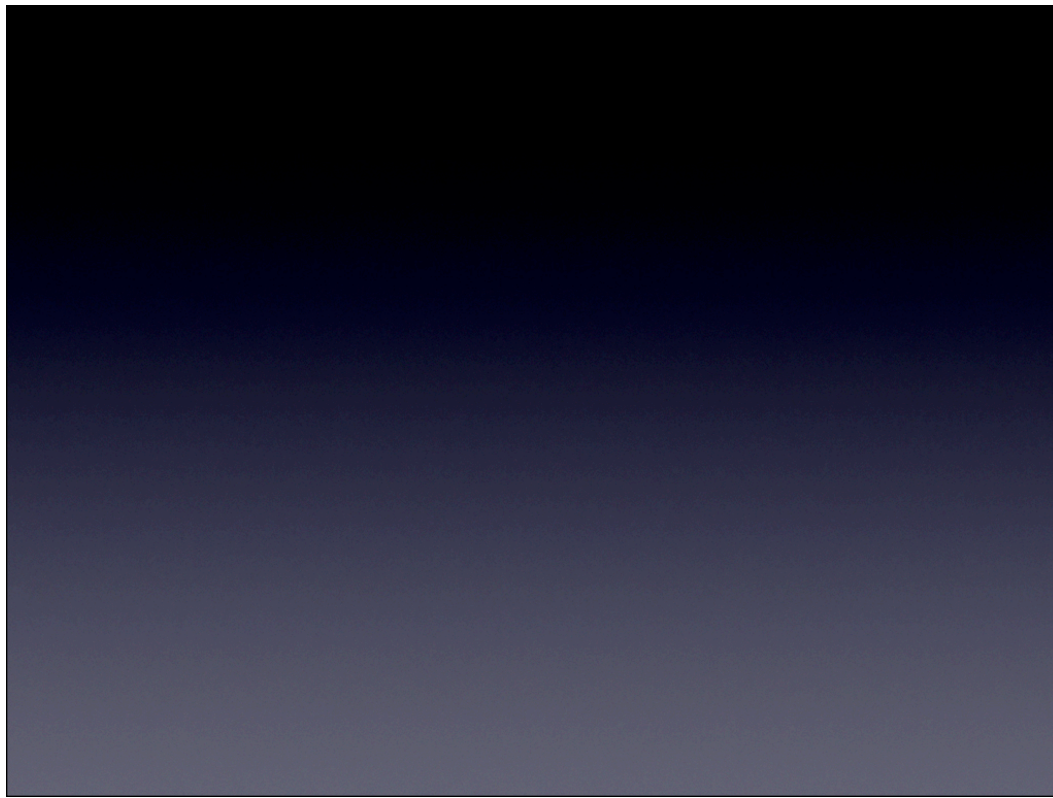
Solve problem. Anticipate student responses.

What misconception could you possibly see in student solutions?

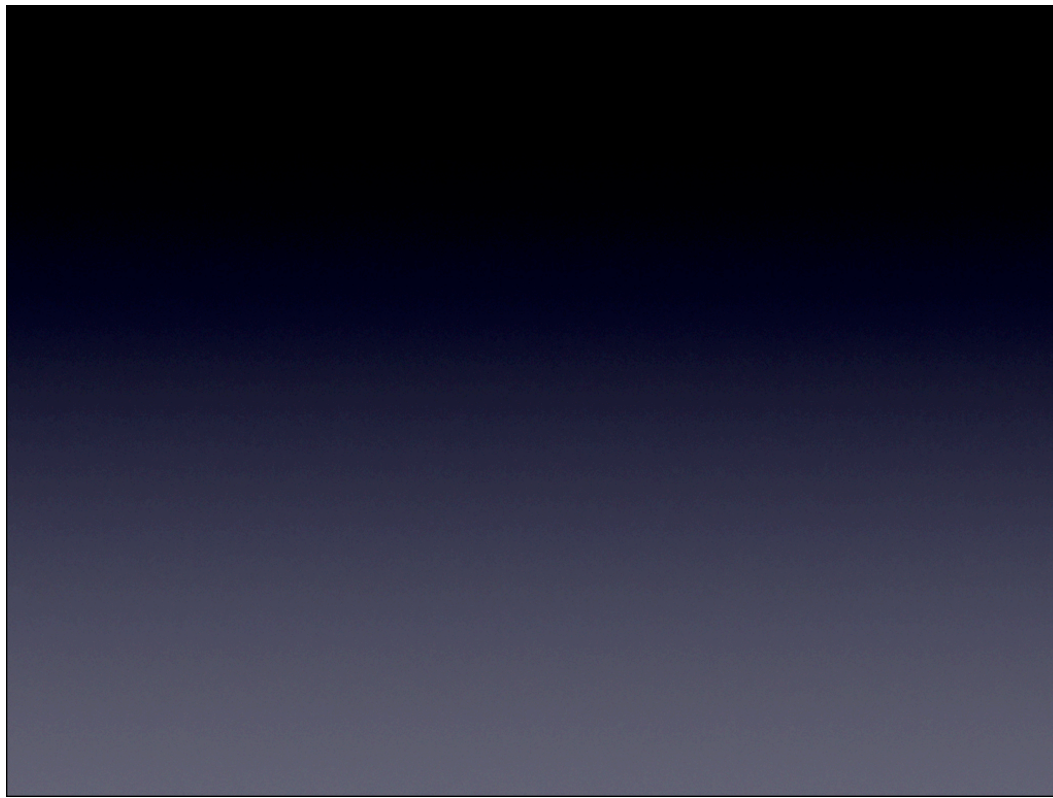
Consider grade levels of students.

Student Samples

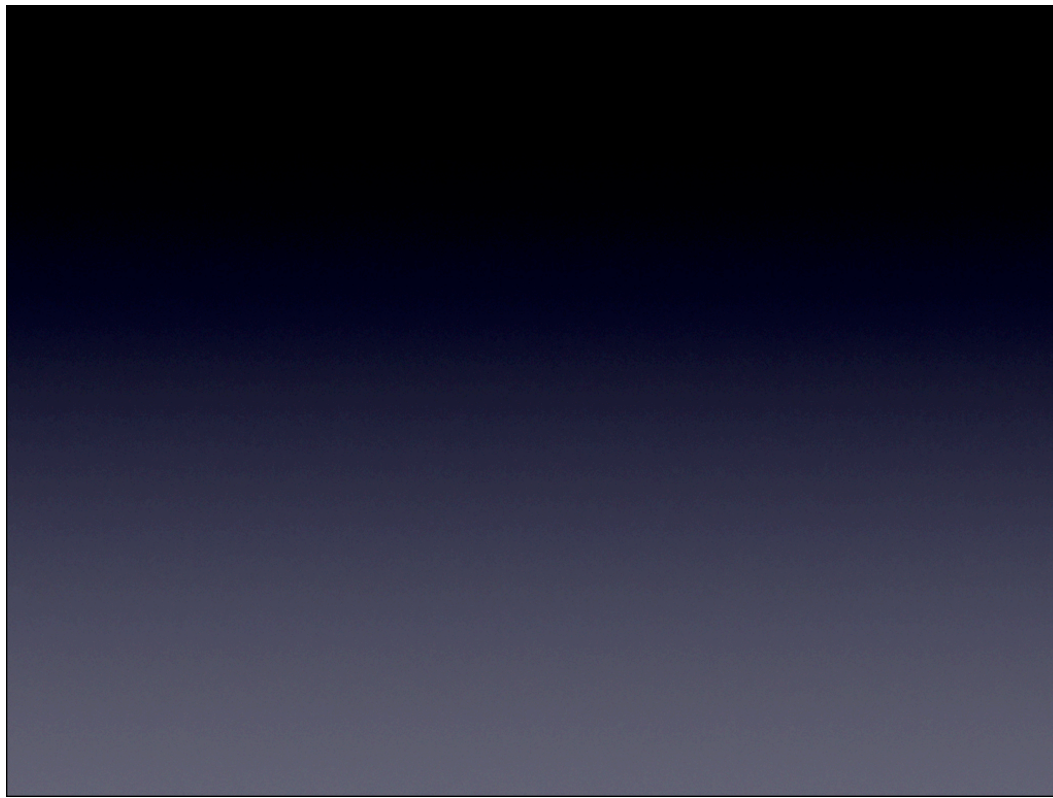
Look at the solutions that have arisen in your classroom.
You have to respond to each of these the next day.
What will be your feedback to each group/individual based on what you see?
Work in groups of 4.
(template provided)



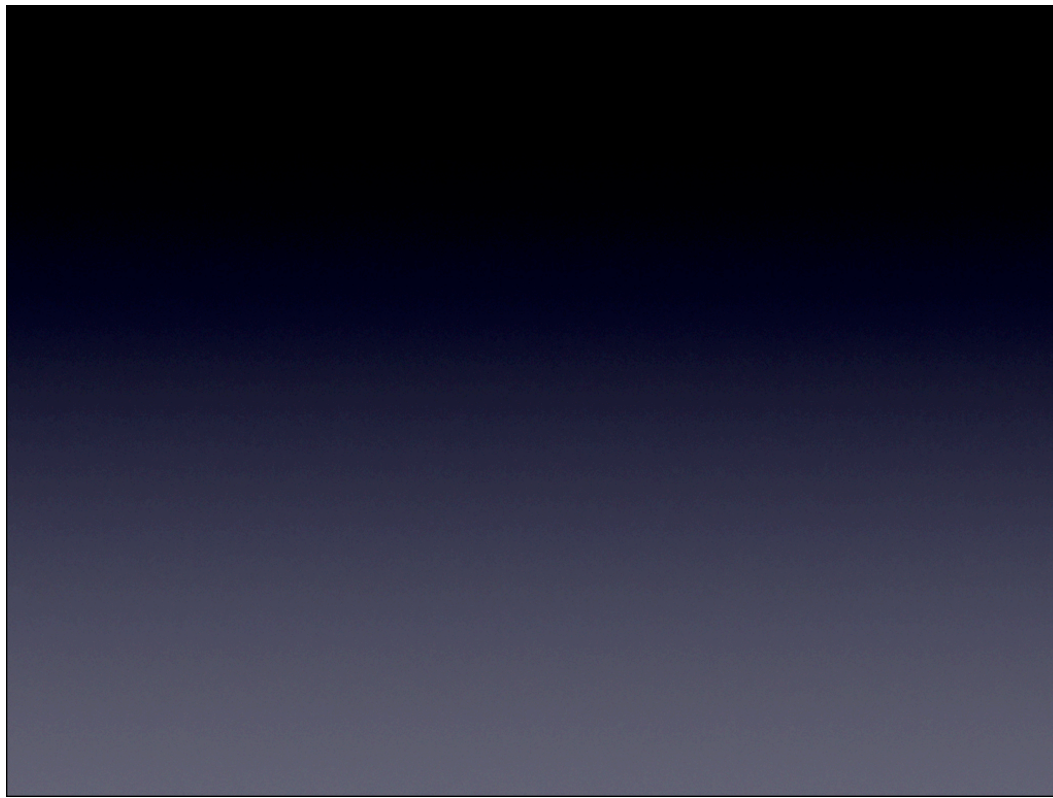
solution 2



solution 3



solution 4



solution 5



Four boxes of cookies cost \$10.00.
How much would 18 boxes cost?

Four boxes of cookies cost \$10.00. How much would 18 boxes cost?
– talk about the reason you pick 18 boxes – 16 – just multiply by 4,
pick 17, will use unit rates

To hear and view this Pencast PDF on your computer, [click here](#) to get the latest version of Adobe® Reader®.

Grade 6 Names: Josh + Grace

4 boxes of cookies cost \$10. How much should 18 boxes cost?

* Legend

4 = 10
2 = 5

4 = 10
8 = 20
12 = 30
16 = 40
18 = 45

45 dollars for 18 boxes

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Grade 6 Name(s): Tyler

4 boxes of cookies cost \$10. How much should 18 boxes cost?

* $18 \div 4 = 4\frac{1}{2}$ boxes 4.5

4.5 or $4\frac{1}{2} \times 10 = 45$

45\$ for 18 boxes.

* P.S.

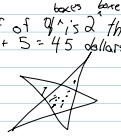
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pencast pdf file – how to embed in keynote?

Grade 6 Names - Thomas P Mack

4 boxes of cookies cost \$10. How much should 18 boxes cost?

★ 4 boxes = \$10
 8 boxes = \$20
 12 boxes = \$30
 16 boxes = \$40
 to get 18 boxes, half of 4's is 2 th
 half of \$10 is \$5. $40 + 5 = 45$ dollars



Grade 6 Names: Amber & Jordan.

4 boxes of cookies cost \$10. How much should 18 boxes cost?

4 = 10 8 = 20 12 = 30 16 = 40

4 → 8 → 1

4 = 10 8 = 20 12 = 30 16 = 40 18 = 45
 = 45

18 boxes of cookies will cost \$45. Because 4 = 10 double that 8 = 20, double that 12 = 30, 16 = 40 and to get 18 be divided 10 ÷ 2 = 5 to get 18 = \$45

Student Samples

- look at student samples (5 different ones)
- template provided – Strategies, Who, Order

strategies

Factor of Change

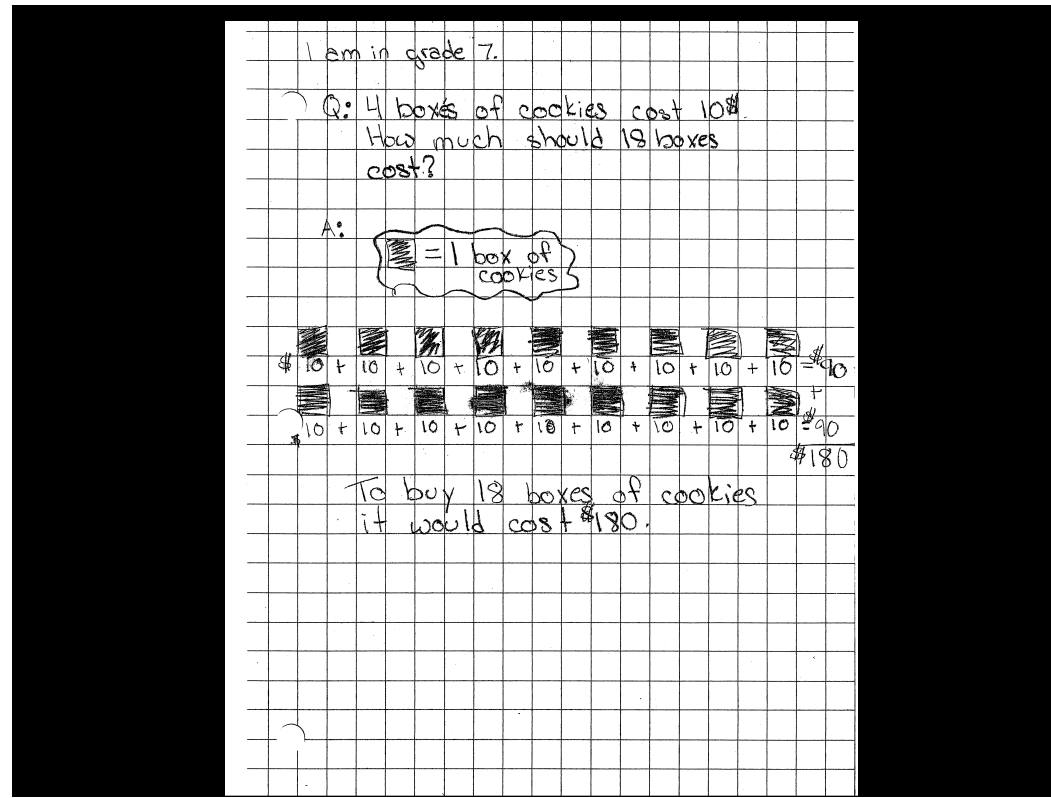
Unit Rate

Scaling Up

Additive

Others?

non-proportional
reasoning



non-proportional reasoning
– guesses, visual clues
random operations and use of numbers
unable to link measures

informal reasoning

Samantha

Friday May 27/11.

4 boxes of cookies cost \$10. How much should 18 boxes cost?

1 2 3 4 0 boxes

\$10

\$10 - 5 1 2 3 4 boxes

\$10 - 10 1 2 3 4 boxes

\$10 - 15 1 2 3 4 boxes

\$5 - 1 2 3 4 boxes

\$10

\$10

\$10

\$10

\$5

\$45.00 for 18 boxes.

unit rate

4 boxes of cookies cost \$10. How much should 18 boxes cost?

You need to find the unit rate of 1 box so you have to divide 10 by 4.

$10 \div 4 = 2.5$ — so each box is 2.5 dollars.

But you need 18 boxes so you have to multiply 18 by 2.5.

$$18 \times 2.5 = 45$$

18 boxes of cookies costs 45 dollars.

I'm in grade 7

4 boxes of cookies cost \$10.
How much should 18 boxes cost?

$$\begin{array}{r} 4 = 10\$ \\ \underline{2 = 5\$} \\ 4 \div 2 = 2 \\ 10 \div 2 = 5 \end{array}$$

* 2 boxes of cookies would cost 5\$

# of boxes	cost of boxes
2	5
4	10
6	15
8	20
10	25
12	30
14	35
16	40
18	45

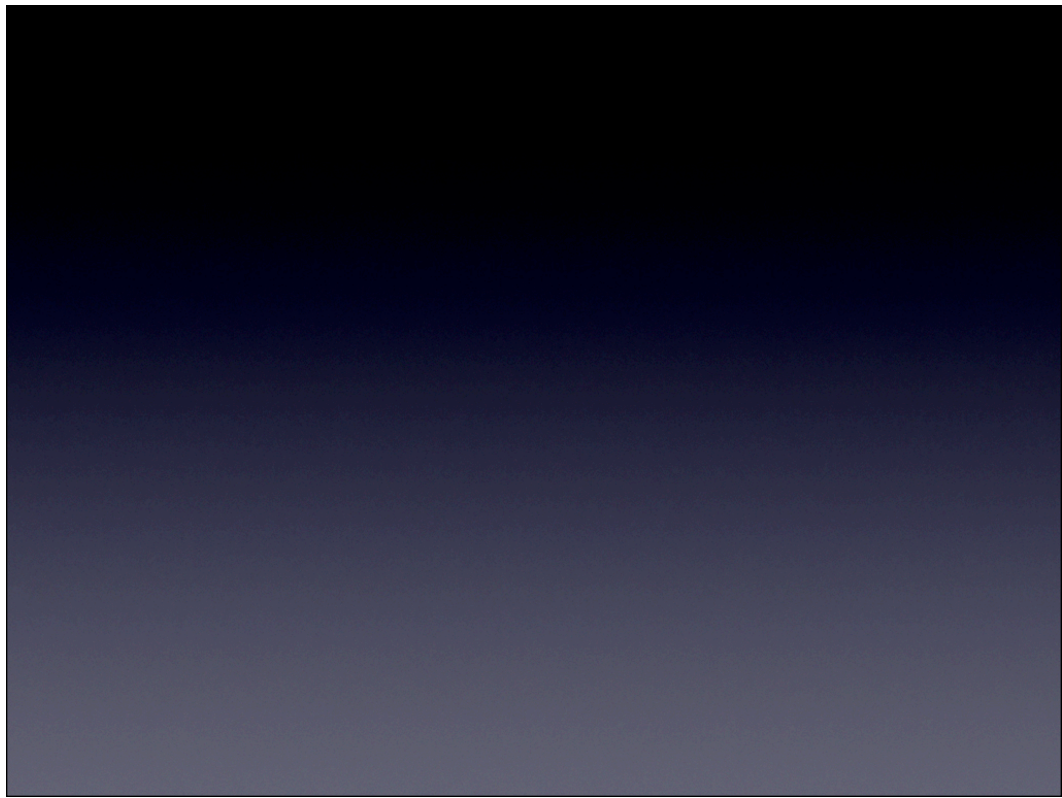
\therefore 18 boxes of cookies should cost \$45.

“formal” proportional
reasoning

4 boxes	10 dollars
18 boxes	? dollars

$$\frac{4}{18} \times \frac{10}{?}$$

$$? = \frac{180}{4} = \underline{45} \text{ dollars}$$



Which is closer to

$$\frac{1}{2}$$

$$\frac{3}{8}$$

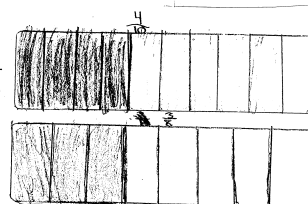
or

$$\frac{4}{10}$$

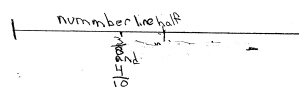
Which is closer to $\frac{1}{2}$: $\frac{3}{8}$ or $\frac{4}{10}$? How do you know?

$\frac{3}{8}$ is equivalent to $\frac{4}{10}$ I know

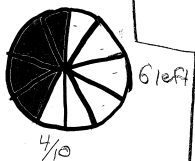
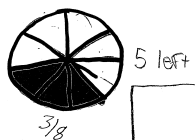
$$\frac{3}{8} = \frac{4}{10}$$



chocolate bars



Which is closer to $\frac{1}{2}$? $\frac{3}{8}$ or $\frac{4}{10}$? How do you know?



$\frac{3}{8}$ is closer to $\frac{1}{2}$. Well, it's true that bigger the denominator the smaller the fractional pieces are.

$\frac{3}{8}$, only 3 is covered but only 5 pieces is left and it's not at a half yet. $\frac{4}{10}$ the pieces are smaller and the numerator is small so it leaves 6 pieces still in there and $\frac{3}{8}$ leaves 5 pieces. $\frac{3}{8}$ has more covered out of the whole pie. $\frac{3}{8}$ is $\frac{1}{8}$ away from its $\frac{1}{2}$ and $\frac{4}{10}$ is $\frac{1}{10}$ away from its $\frac{1}{2}$ but $\frac{3}{8}$ is a smaller number so it would be closer even if there both not a half yet.

$$\frac{3}{8}$$



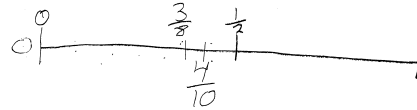
$$\frac{4}{10}$$



Which is closer to $\frac{1}{2}$: $\frac{3}{8}$ or $\frac{4}{10}$?

How do you know?

I think $\frac{4}{10}$ is closer to $\frac{1}{2}$ because when I drew it they both were 1 square away from being a half but when I looked closer at the pictures the $\frac{4}{10}$ was a smaller square, so that would mean that $\frac{4}{10}$ is a little, tiny bit closer to $\frac{1}{2}$.



feedback

- ask teachers to create feedback questions on student samples
- examples of feedback – – we will provide some of our questions to student samples that were provided to groups